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March 28, 2001

Via Federal Express

Mr. Mike Ferriola  
US EPA Region 2  
Emergency Response Branch  
2890 Woodbridge Avenue  
Building 209 - Mail Stop 211  
Edison, NJ 00837-3679

RE: Response to Request for Information - Hamilton Twp., NJ

Dear Mr. Ferriola:

On behalf of W. R. Grace & Co., attached please find answers and documents responsive to highlighted questions posed by you via e-mail dated March 7, 2001. Since your request was unofficial, Grace is providing this information in an expedited fashion in the interest of assisting EPA Region 2 in its investigation. Because of Grace's desire to cooperate and provide EPA Region 2 the requested information as quickly as possible, these answers have not undergone the ordinary review that responses to official EPA requests for information would typically receive.

To the extent responses are made, they reflect a good faith effort to present information to EPA, however, Grace reserves the right to amend, retract, supplement, or substitute any response at any time. By accepting this information, EPA agrees that its request for such information was informal, that the provided information may be unreliable or incomplete, and that Grace will not be responsible for any errors, omissions, duplications, or inconsistencies with any other response provided by Grace at any other time.

Thank you for your cooperation in this matter.

Very truly yours,

David M. Cleary  
SC Bar Application Pending

DMC:nmr&amp;s

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**W. R. GRACE & CO.-CONN.  
FORMER VERMICULITE EXPANSION PLANT  
TRENTON, NJ**

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**W. R. GRACE & CO.-CONN.  
FORMER VERMICULITE EXPANSION PLANT  
TRENTON, NJ  
PREPARATION OF ANSWERS TO EPA INFORMATION REQUEST**

Selected information was requested by Mr. Mike Ferriola, EPA Region II, On-Scene Coordinator, regarding the former Grace vermiculite expansion plant located in the Hamilton Township, NJ. For the purpose of simplicity and in keeping with the former Grace designation of this site, the location will be referred to as the "Grace Trenton, NJ Vermiculite Expansion Plant." It is understood that the former facilities are actually located in Hamilton Township, Mercer County, State of New Jersey.

All response information was accumulated for submission to EPA under the direction and authority of:

Robert J. Medler, Director  
Remedium Group, Inc.  
6401 Poplar Ave., Suite 301  
Memphis, TN 38119-4840  
Tel: (901) 820-2024  
Fax: (901) 820-2061

Specific questions regarding these answers or requests for additional information can be directed to:

Robert R. (Bob) Marriam, Consultant  
Remedium Group, Inc.  
Tel: (901) 820-2023  
email [Robert.R.Marriam@grace.com](mailto:Robert.R.Marriam@grace.com)

At the request of Mr. Ferriola, emphasis was placed on answering the highlighted questions in his list which have the highest priority. W. R. Grace & Co. is in the process of developing responses to a massive 104(e) letter from EPA Region VIII that covers all of the Grace vermiculite expansion plants within the United States. This effort involves an exhaustive file search and document copying by a large group of outside legal talent and necessarily limits availability to these documents being processed or copied.

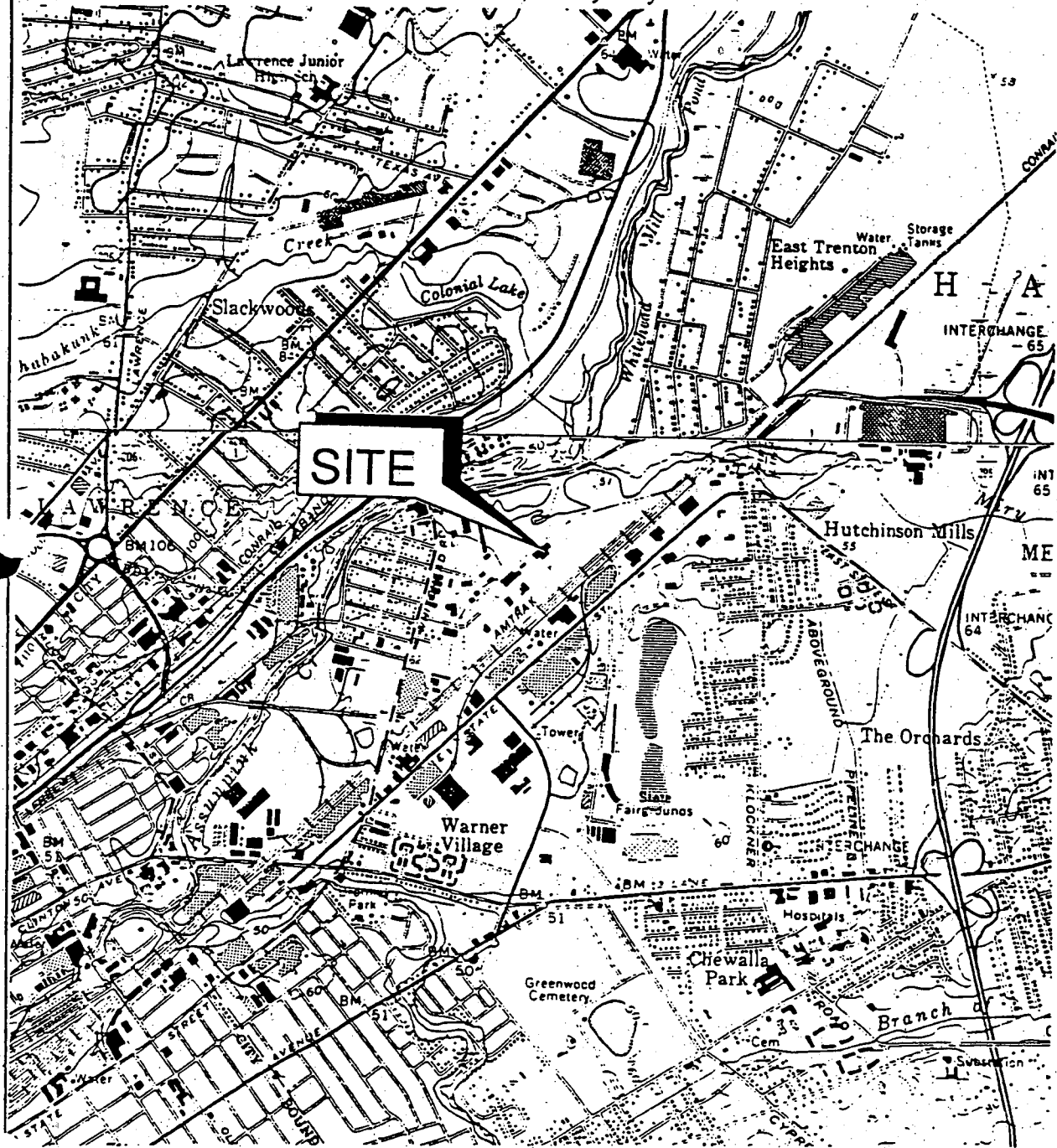
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While believed to be accurate, information being supplied to EPA under this request may not be all-inclusive. As additional information becomes available, it will be supplied to EPA as supplemental data on a timely basis.

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Figure 1-1  
 Site Location Map  
 W. R. Grace & Co. - Conn.  
 15 Industrial Drive  
 Trenton, New Jersey



2000 1000 0 2000  
 scale in feet



Source: USGS Topographic Quadrangles, Trenton East, NJ-PA  
 and Princeton, NJ.

**CORRECT ADDRESS OF W. R. GRACE & CO.-CONN.  
FORMER VERMICULITE EXPANSION PLANT  
TRENTON, NJ**

The various addresses of the former Trenton, NJ vermiculite expansion plant have been shown to be 10 Industrial Drive; 15 Industrial Drive; 336 Whitehead Road; 31 Industrial Drive; and 31 Rear Industrial Drive, all in Trenton, NJ. This is all the same location and the confusion arises from the fact that the leased property for the former vermiculite expansion plant was located within the repair yards of the Pennsylvania Railroad Company, and there was no real existing address. The designation by the railroad for the property was Trenton Shop Yards, Hamilton Township, Mercer County, State of New Jersey (Map 21, Map 26, Lot 3, Block 46).

It is believed that the correct address should be 15 Industrial Drive, Hamilton Township. Regardless of the address, the former vermiculite expansion plant was always located (from 1951 to 1994) in an unused railroad locomotive repair shop called the Smith Shop Building. The Zonolite Company, a Montana Corporation, originally leased the property (46,390 sq. ft. or 1.06 acres) from the Pennsylvania Railroad Company on November 12, 1950. The leased property included two existing buildings, the Smith Shop Building (80' x 250') and a combination lavatory/lunch room (30' x 90'). When first leased the Smith Shop Building had a railroad track running down the center of the building. This track was relocated to the outside for use as a rail receiving track. Vermiculite expansion equipment was installed in the Smith Shop Building and the expansion plant became operational in 1951.

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## **SIZE OF THE PROPERTY LEASED BY ZONOLITE COMPANY/W. R. GRACE & CO.-CONN.**

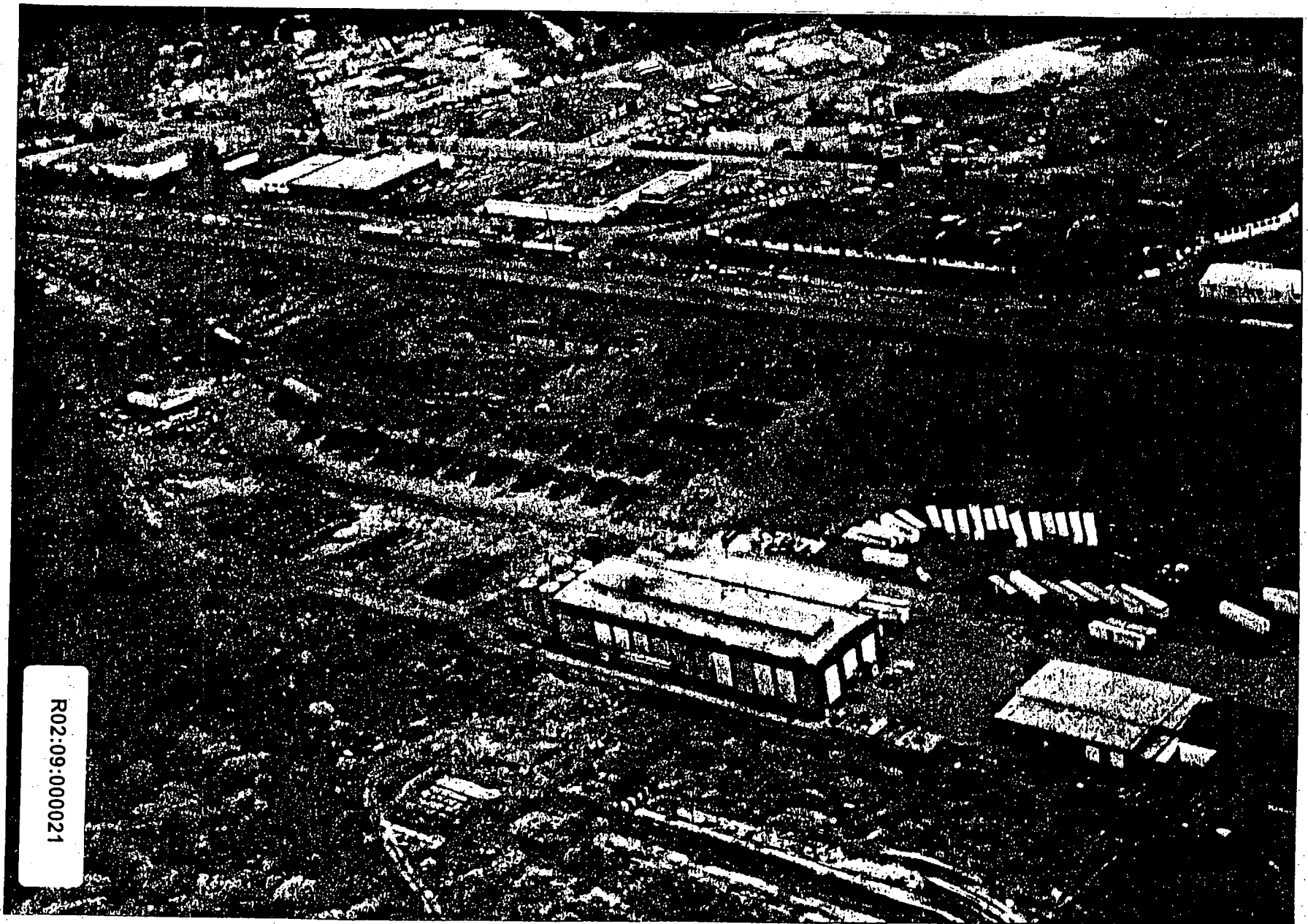
On November 12, 1950, the original land lease for the site of the vermiculite expansion plant was executed between the Zonolite Company (a Montana corporation) and the Pennsylvania Railroad Company. (The owner of record of the property was United New Jersey Railroad and Canal Company.) The lease included 46,390 sq. ft. of land (1.06 acres) and contained two buildings. The necessary vermiculite expansion equipment was installed in the larger building and operation started some time in 1951. Although the size of the property changed several times over the succeeding years, it was always the same basic plot containing the building where the expansion plant was located.

The lease renewal dated January 1, 1958, reduced the land area from 46,390 sq. ft. to 40,920 sq. ft. and eliminated the one-story lavatory/lunch room building from the lease. On June 29, 1959, the new dimensions of the leased property was a block (150' x 410') containing 61,500 sq. ft. or 1.41 acres. In the lease renewal signed on December 20, 1962, the leased land area was increased to 8.0 acres. The transfer of the lease from Zonolite Company to W. R. Grace & Co. occurred in late April 1963 after the purchase of Zonolite by Grace. The Lessor of record was W. R. Grace & Co. from late April 1963 until the facilities were closed in 1994. By 1986 W. R. Grace & Co. had relinquished part of the property and the leased portion was reduced from 8.0 acres to 3.5 acres. It is believed that the land leased remained at 3.5 acres until the plant closure in 1994.

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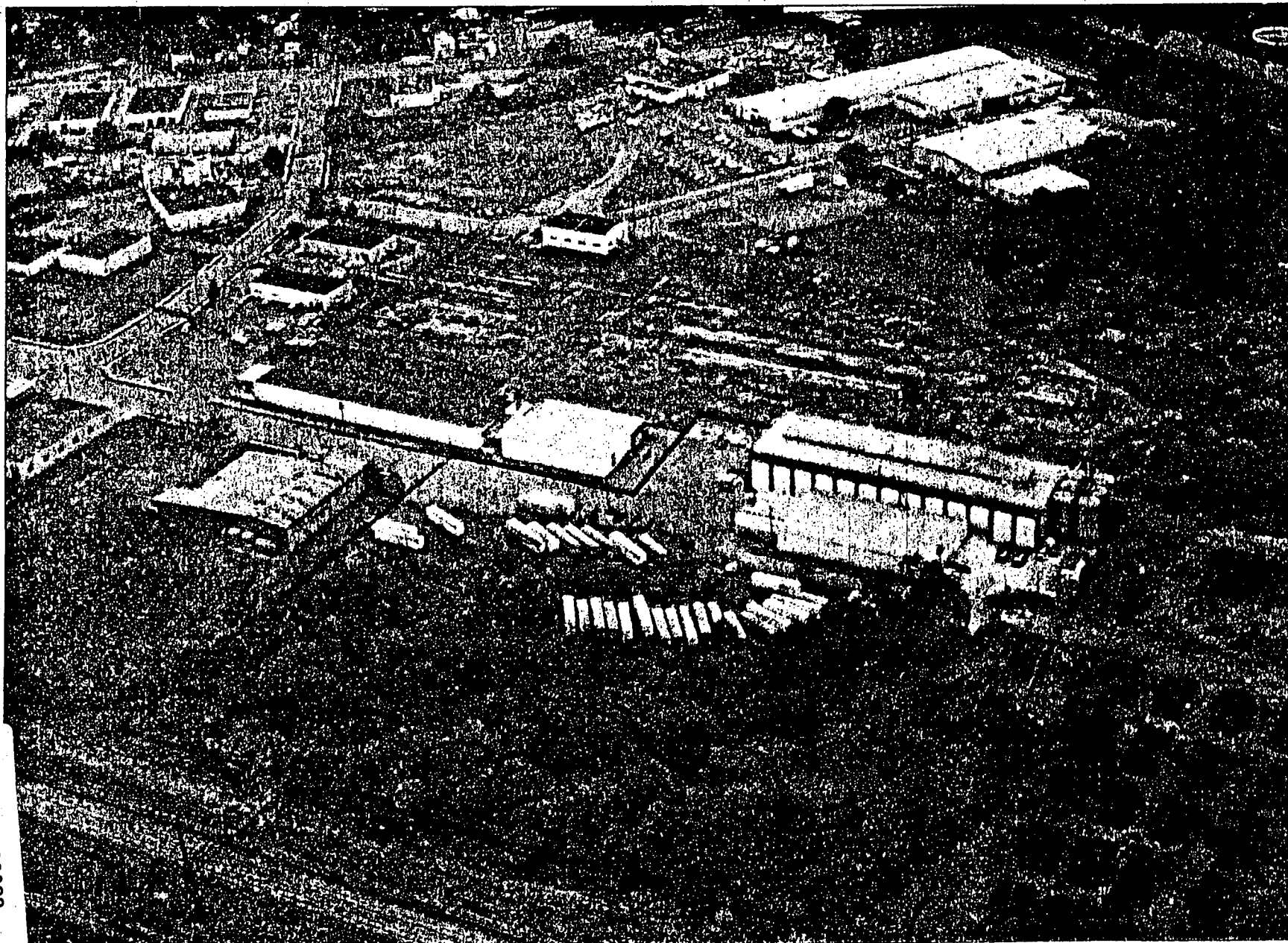
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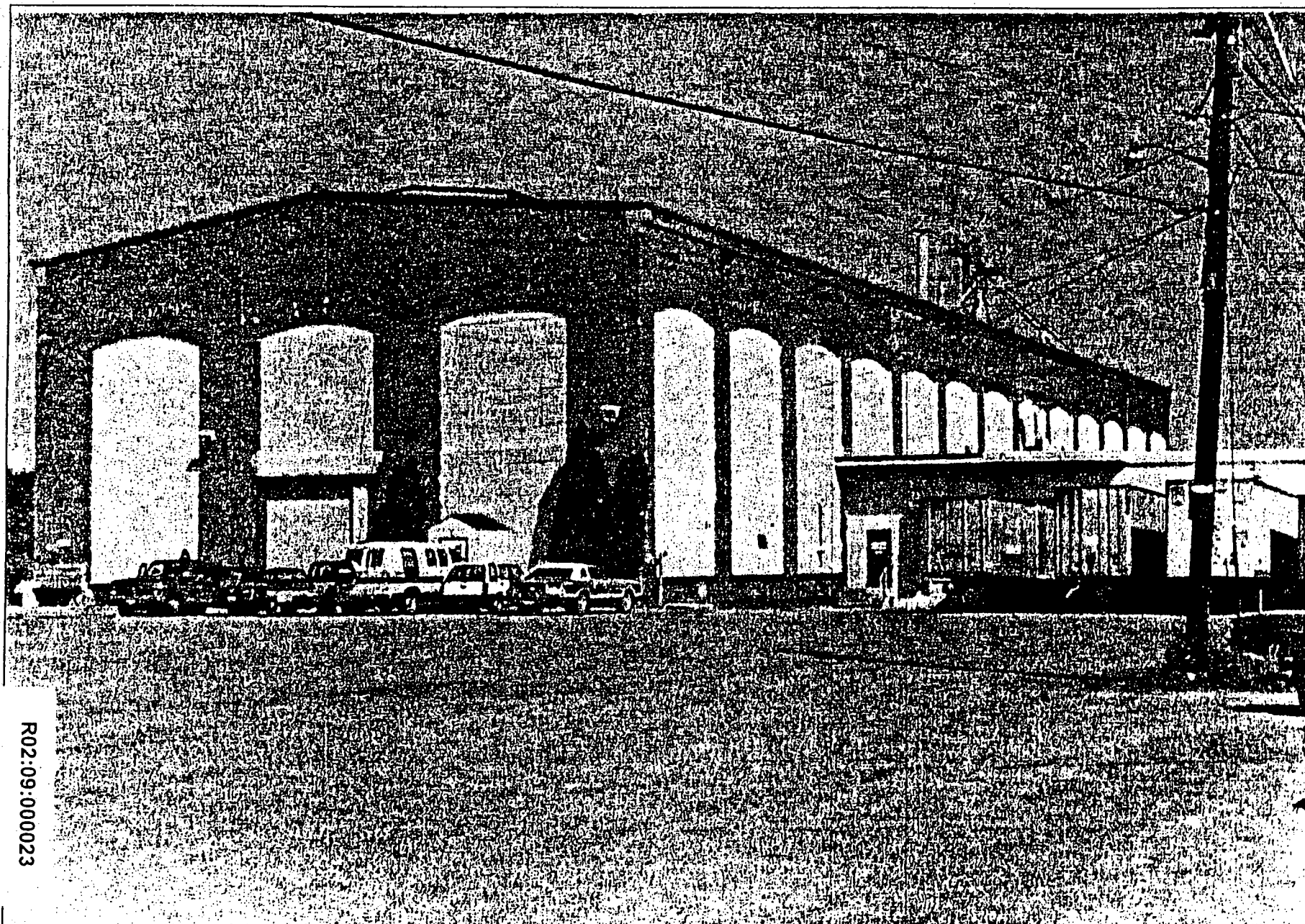
Former Grace Vermiculite Expansion Plant - Trenton NJ - Looking Southwest





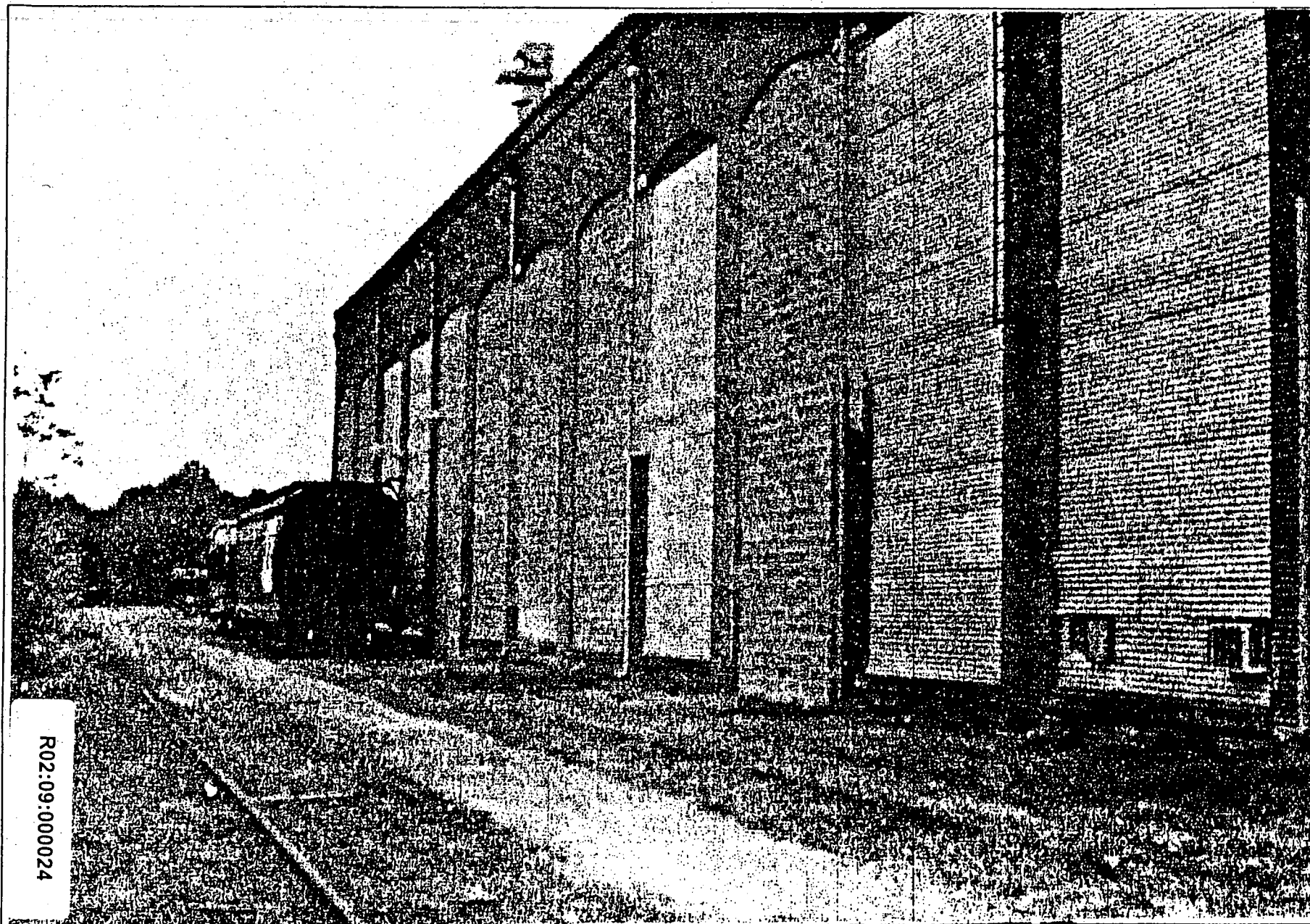
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**Former Grace Vermiculite Expansion Plant - Trenton NJ - Looking Northeast**



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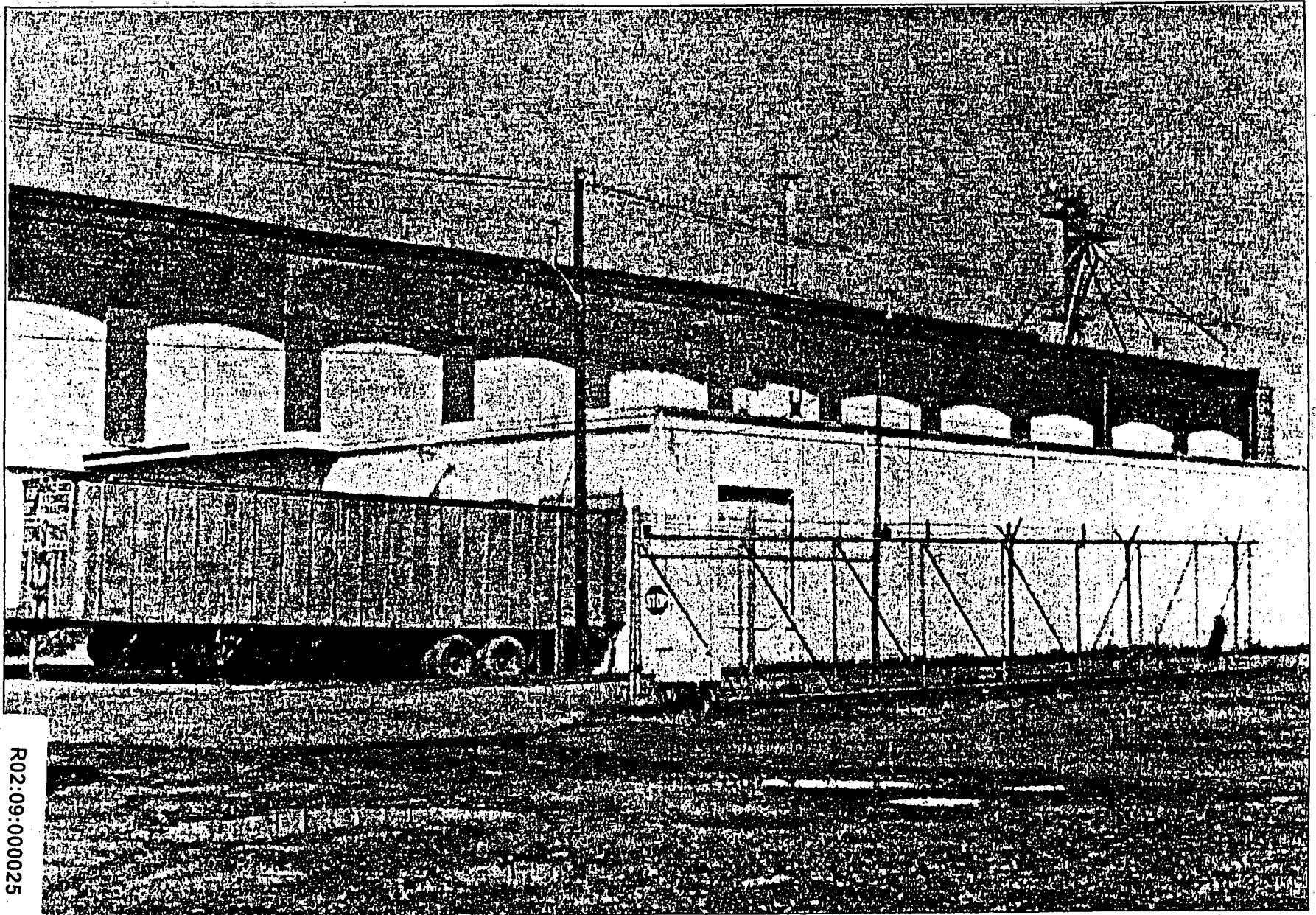
Former Grace Vermiculite Expansion Plant - Trenton NJ - West View Showing Truck Loadout Stations



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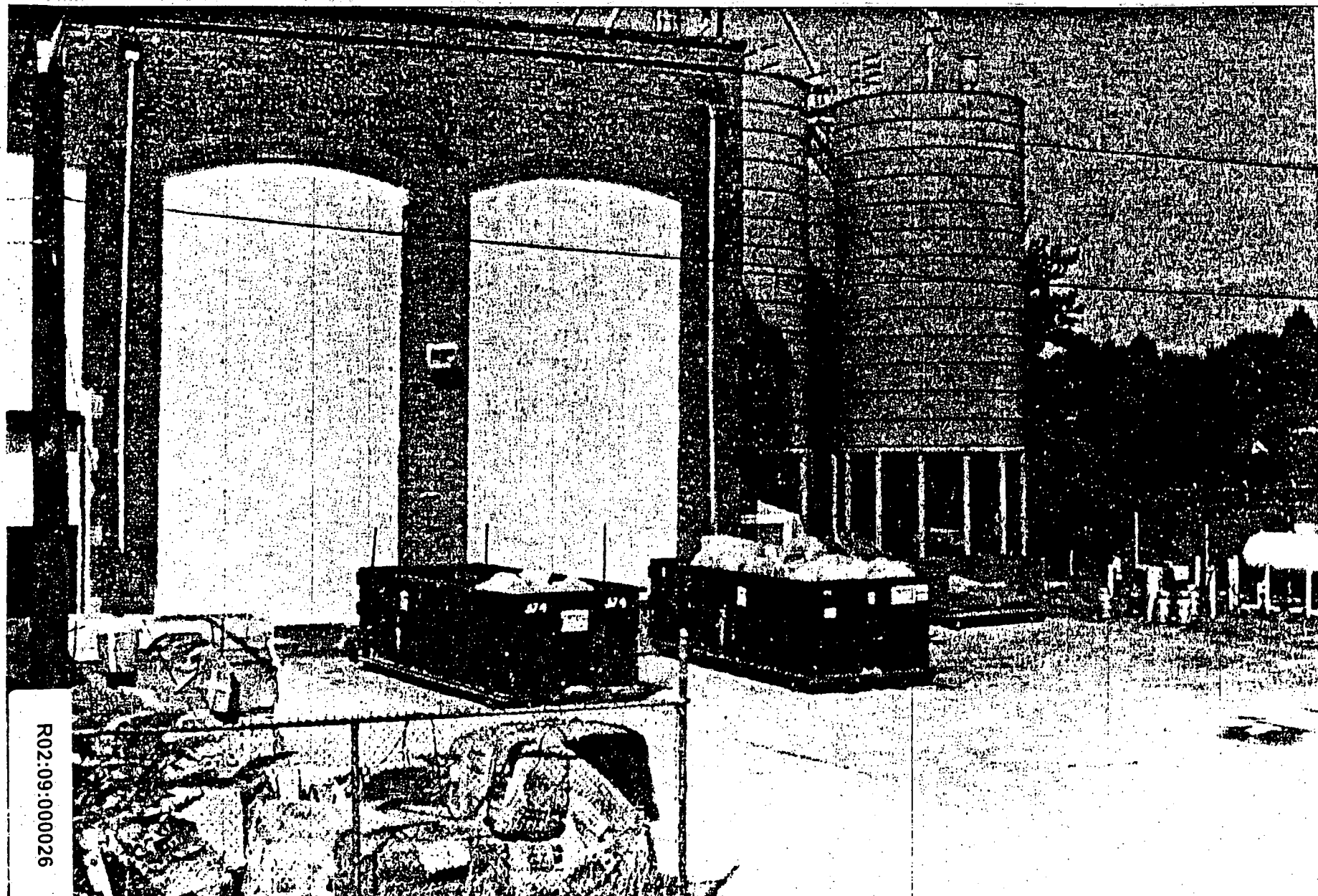
Former Grace Vermiculite Expansion Plant - Trenton NJ - North View - Rail Receiving





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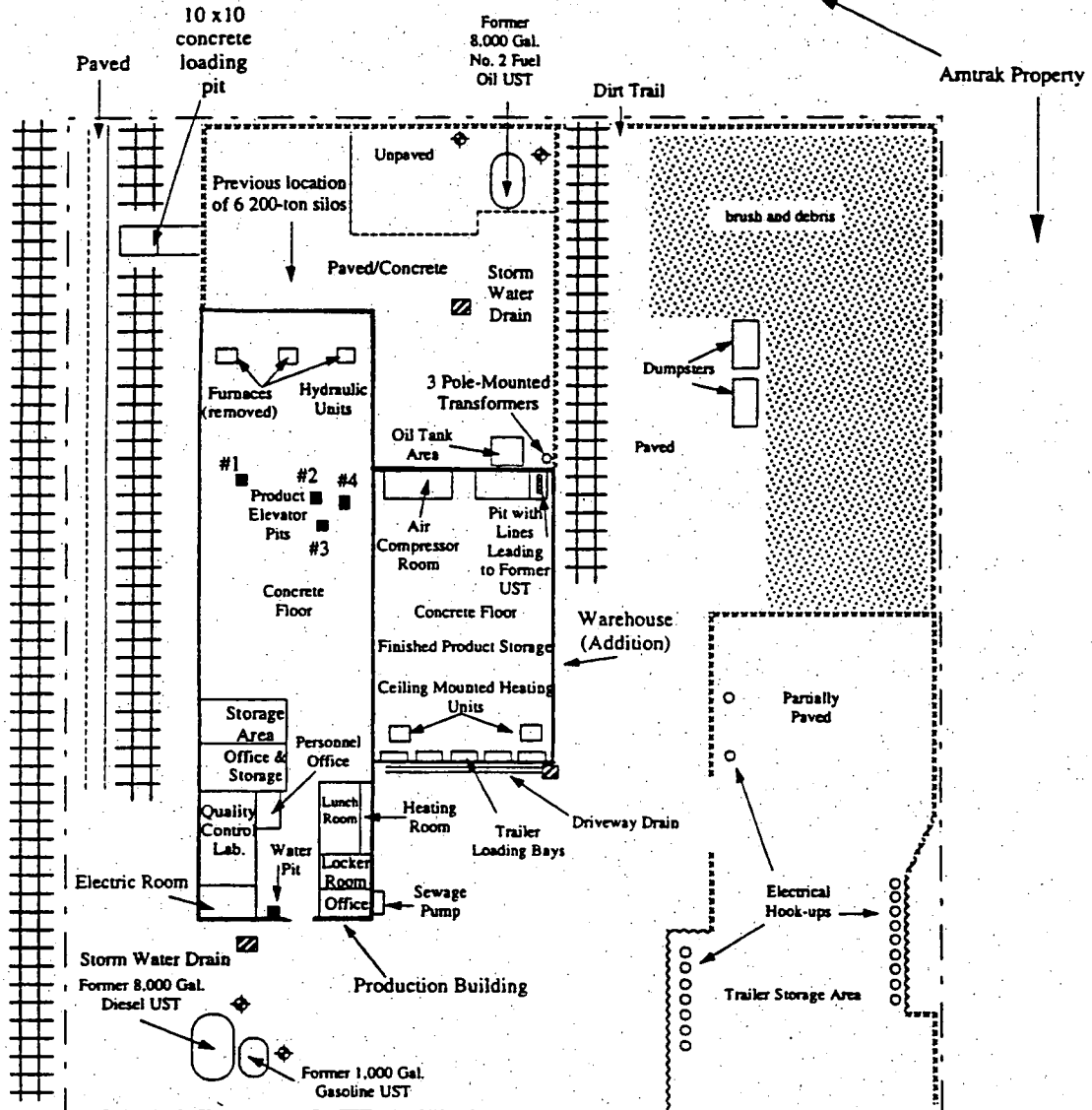
**Former Grace Vermiculite Expansion Plant - Trenton NJ - South View - Warehouse Added in 1972**



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Former Grace Vermiculite Expansion Plant - Trenton NJ - Eastern End of Plant With Silos

**Figure 1-2**  
**Site Layout**  
**W. R. Grace & Co. - Conn.**  
**15 Industrial Drive**  
**Trenton, New Jersey**



**Legend**

- Fence
- Brush/Debris
- Railroad Tracks
- Pit
- Monitoring Well
- Leased Property Boundary

Fyr Fyter Sprinkler  
Division

95 ft

N

## **W. R. GRACE & CO.-CONN. PROCESS DESCRIPTION**

At the Trenton facility, W. R. Grace & Co. operated three (3) vermiculite expanding furnaces and one (1) product mixer for the manufacture of vermiculite-based products, including structural fireproofing (Monokote®), thermal insulation for masonry, light weight concrete aggregates, and horticultural vermiculite. Major production equipment included furnaces for expanding vermiculite concentrate, mixing machinery, equipment for handling and storing vermiculite, and systems for dust collection and wetting-down plant waste. Raw materials processed included vermiculite concentrate, gypsum, and other substances used in vermiculite-based products.

### ***Vermiculite Exfoliation Process***

Using enclosed conveyors and a bucket elevator, vermiculite concentrate was unloaded from nominal 100T railroad hopper cars and used as raw material input to the expanding furnaces. The automatic conveyors and elevator system retrieved the vermiculite concentrate based on a furnace demand of 1.2 tons/hr. One vermiculite expanding furnace was fired by natural gas heat, and the other two furnaces were oil fired.

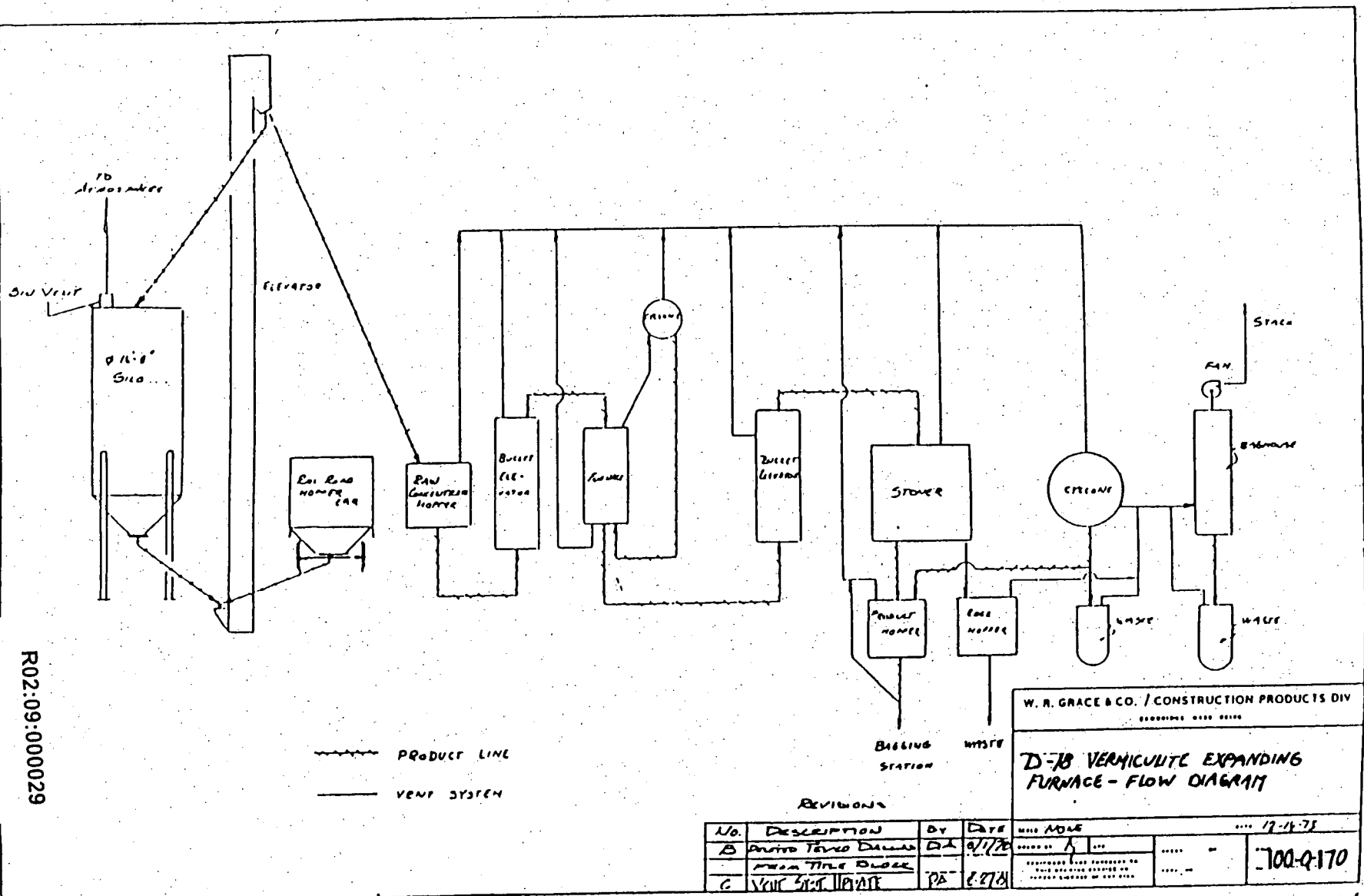
Vermiculite concentrate of an average density of 55 lb./cf. was fed to the direct fired furnace where the vermiculite expanded to a product with a density of 5-7 lb./cf. After the exfoliation process, the expanded vermiculite passed over an inclined vibrating/air fluidizing screen (stoner) to separate unexpandable minerals, called stoner rock, from the finished product. The finished product was bagged in 3, 4, and 6 cf. paper or plastic bags for end use application. Some products required uniform particle size, and the products were screened before bagging to remove -14 mesh fines. Occasionally, the vermiculite had different raw materials added or applied to alter the vermiculite's performance for specific end uses.

The expanding furnace vent system was designed to collect dust generated. The system consisted of a main vent header, branch headers, primary cyclone, baghouse, and fan. Particulates collected in the primary cyclone were returned to the product, and baghouse fines were collected as waste.

### ***Monokote®***

Monokote® fireproofing consists of a dry mixture of exfoliated vermiculite, gypsum, cellulose, and/or glass fibers and powdered surfactant. In addition, prior to 1973, the fire protection product formulation contained chrysotile asbestos. The batch mixing process had the capacity to produce 7,000 lb./hr. of the mixed product Monokote®. Raw materials were manually added to the charging hopper and conveyed to the mixer by a bucket elevator. Mixed product was packaged in 40 lb. bags with an auger-type valve packer.

The mixing process vent system was designed to collect dust generated from various points. The vent system consisted of a main vent header, branch headers, baghouse, and fan. Fine particulates collected in the baghouse were disposed of as waste.



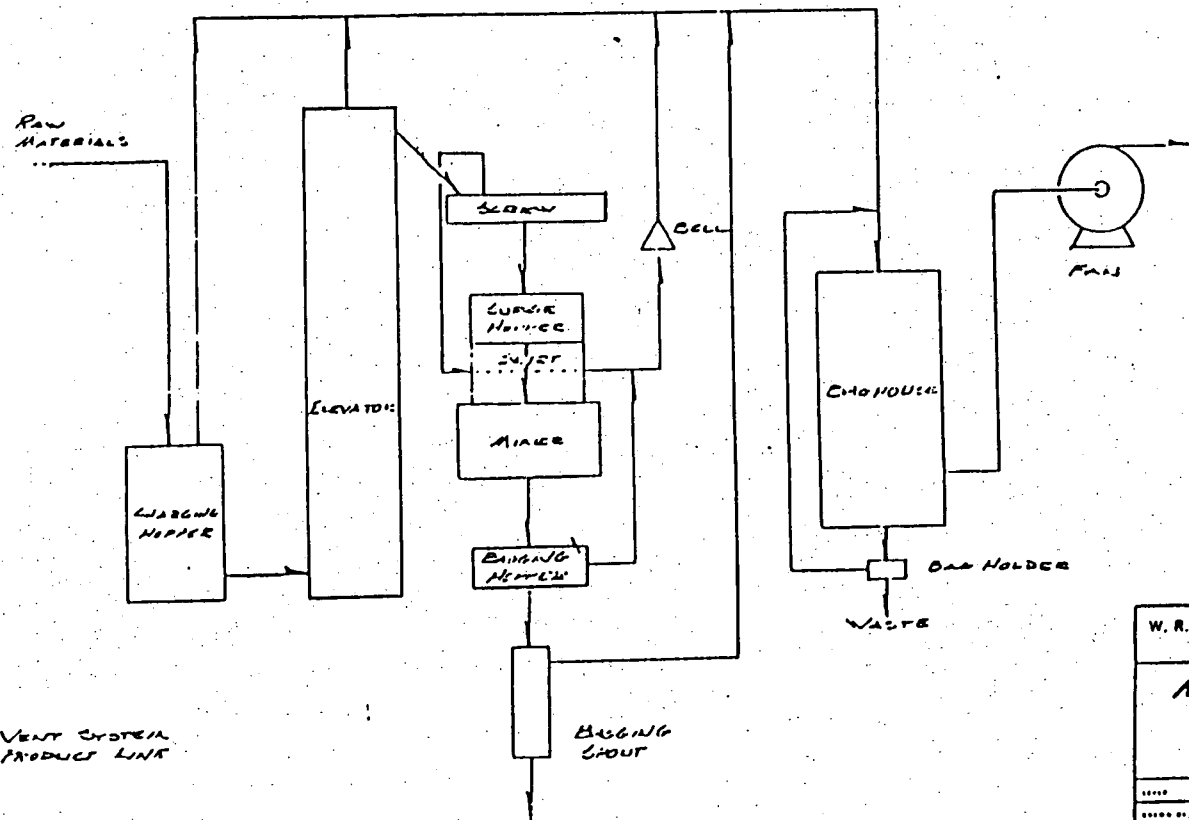
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SYMBOLS

— VENT SYSTEM  
 - - - - - PRODUCT LINK



W. R. GRACE & CO. / CONSTRUCTION PRODUCTS L  
 ESTABLISHED 1900 0010

Monokote Flow Diagram  
 Ribbon Blender

DATE	12/10/66	DATE	12/10/66
DESIGN BY	W. L. L.	DATE	12/10/66
REVISIONS AND COMMENTS TO BE MADE BY THE DESIGNER OR THE USER OF THE DRAWING			

**W. R. GRACE & CO.-CONN.  
SHIPMENTS OF LIBBY, MONTANA VERMICULITE  
CONCENTRATE TO FORMER  
TRENTON, NJ VERMICULITE EXPANSION PLANT**

Information provided by Grace in response to a Region V 104(e) request had included a series of spreadsheets showing all shipments of Libby, Montana, vermiculite concentrate to Zonolite vermiculite expansion plants for the period 1957-1988 (with the year 1981 data missing). Shipments to the former Trenton, NJ expansion plant have been prepared from these spreadsheets in a table form (attached). Also included is vermiculite shipment information taken from W. R. Grace & Co. Waste Survey Reports, which started in 1991. Shipment data for the years 1989-1990 were taken from calculation sheets used for the development of SARA Title 313 Form R reporting by the former Plant Manager of the Trenton, NJ plant.

It is believed that this is reliable shipment information based on the presumption of accuracy of the shipment spreadsheets which were prepared by Libby personnel over a long period (1957-1988). There is no way of verifying any of these data by comparison to other records.

It should also be understood that during the period of operation of the Trenton, NJ vermiculite expansion plant, shipments of vermiculite concentrate were also made from the Grace Enoree, SC mine. For the purpose of this review, only the concentrates shipped from Libby, MT are included in the table.

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W. R. Grace & Co.-Conn.  
Shipments of Libby, MT Vermiculite  
Concentrate to the Trenton, NJ  
Vermiculite Expansion Plant  
15 Industrial Drive  
Trenton, NJ 08619

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<u>Year</u>	<u>Tons of Concentrate Received</u>
1957	1,525*
1958	1,697*
1959	3,131*
1960	3,695*
1961	2,415*
1962	1,943*
1963	2,068
1964	2,019
1965	1,738
1966	1,906
1967	1,709
1968	1,985
1969	1,783
1970	2,120
1971	2,444
1972	3,072
1973	8,556
1974	6,832
1975	6,942
1976	12,203
1977	13,980
1978	8,131
1979	11,549
1980	11,526
1981	Not Available
1982	10,495
1983	9,866
1984	11,479
1985	10,085
1986	11,260
1987	9,443
1988	8,665
1989	8,285
1990	2,307 (Libby Mine Closed)
1991	222

\*Prior to 1963, the fiscal year ran from March to March. After this date, the entries are for calendar years.

Data Source: This table was prepared from documents included in the following transmittal: W. R. Grace & Co. response letter of August 28, 2000 from K. W. Lund, Esq. (Holme Roberts & Owens) to Ms. Carol Ropski - EPA Region 5 (Chicago, IL) in response to 104(E) request. Shipments in years 1989-1991 were developed from reports by Plant Manager.

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**W. R. GRACE & CO.-CONN.  
PARTIAL LIST OF EMPLOYEES AT FORMER GRACE  
VERMICULITE EXPANSION PLANT  
TRENTON, NJ**

A partial list of the former Grace employees at the Trenton, NJ vermiculite expansion plant has been developed from correspondence, old company directories, and from discussions with former plant managers. It is not a complete list. The names were then run through the Grace Pension Database and addresses were developed for some of these names.

As a precautionary note, there may be several former Grace employees with the same name and the addresses shown may not be correct for those persons formerly working at the Trenton, NJ site. The most helpful contacts have been John Kozarovich, and Leo Fletcher (active Grace employees) and Walter Kaluzny (former plant manager). As additional former employees are identified, the information will be forwarded to your office.

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**W. R. GRACE & CO.-CONN.  
PARTIAL LIST OF FORMER EMPLOYEES AT THE  
TRENTON, NJ EXPANSION PLANT**

No.	Employee	Address	Telephone Contact
1	Borrelli, Joseph M.	49 Robbinsville Edinburg Road Robbinsville, NJ 08691	(908) 806-2385
2	Briggs, Jack (John W.?) (b 8/30/21)	19 Oakdale Blvd. Morrisville, PA 19067	
3	Cardinal, Norman J.	18497 N.W. 24th Avenue Citra, FL 32113	(352) 595-1726
4	Carrothers, Timothy W.	P. O. Box 3656 Yuba City, CA 95993	
5	Cintani, James	30 Highland Drive Yardley, PA 19067-2727	(215) 493-4786
6	Devine, Robert F.	(not on Pension Database ("PD"))	
7	Ecott, G.A.	(not on PD)	
8	Fletcher, Leo E. (Active Grace Employee)	270 Aubrey Drive Quakertown, PA 18951	(609) 278-9395 (Work Phone)
9	Johnson, Demetris	(not on PD)	
10	Kaluzny, Walter	(not on PD)	(609) 951-9217
11	Kelly, James (there are 4 more James Kellys)	13 Nordacs St. Trenton, NJ 08618	
12	Kimbrough, P.J.	(not on PD)	
13	Kozarovich, John S. (Active Grace Employee)	W. R. Grace & Co. Production Superintendent FP Manufacturing Fire Protection Santa Ana, CA 104 Nightingale Aliso Viejo, CA 92656	(714) 979-4682 (ext. 614) (Work Phone)
14	McCall, James	509 Monmouth Street Trenton, NJ 08609	(609) 394-2792
15	Peters, G.A. (Gail A.?) (b. 11/19/34)	6209 E. McKellips Road, #278 Mesa, AZ 85205	
16	Phillips, Ned	One Forest Lake Drive Simpsonville, SC 29681	(864) 281-0338
17	Rothermel, G.M. (Gertrude M.?) (b. 1/24/19)	100 Trentwood Condo Simpsonville, SC 29681	
18	Thompson, Charlie J. (b. 4/17/46) -or - Thompson, Charles (b. 5/26/26)	343 Oakland Street Trenton, NJ 08618 3800 Beechton Road Columbus, OH 43232	
19	Titus, J.S. (James S.?) (b. 1/5/23)	5 Knoll Drive Yardley, PA 19067-2811	(215) 493-3132
20	Williams, Curtis (b. 11/5/28) -or- Williams, Curtis L. (b. 9/16/62)	118 Reed Street Hightstown, NJ 08520 Rt. 5, Box 375 Winnsboro, LA 71295	

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**W. R. GRACE & CO.-CONN.  
STORAGE OF VERMICULITE CONCENTRATE AT  
THE TRENTON, NJ  
VERMICULITE EXPANSION PLANT**

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It is understood that the storage of vermiculite concentrate for the period 1951-1973 was in a series (believed to be 6 or 7) of wooden bins located within the manufacturing building along the eastern wall. According to the records, in 1973 six 200-ton capacity steel upright silos were erected on the outside of the easterly side of the manufacturing building and the internal wooden bins were removed. The vermiculite concentrate was received in closed hopper rail cars having a nominal 100-ton capacity. The concentrates were unloaded from the bottom of these hopper cars into an undertrack screw conveyor which moved the concentrate to a bucket elevator. The bucket elevator lifted the concentrates and discharged through a closed diverting valve (distributor) which directed the concentrates through steel piping to the correct upright steel silo. These 6 silos were in use from 1973 until the closure of the facilities in 1994 when the silos, along with all other manufacturing equipment, were dismantled and removed.

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**W. R. GRACE & CO.-CONN.  
STORAGE AND/OR HANDLING  
OF EXPANDED VERMICULITE AT THE  
FORMER TRENTON EXPANSION PLANT**

Expanded or exfoliated vermiculite discharged by gravity from the furnaces through the appropriate screening machinery and dropped directly into the bagging equipment. The expanded vermiculite was immediately put into bags of various sizes in most instances. There were no intermediate storage piles or containers. There was the capability of bypassing the bagging equipment and going to the Monokote® mixer when the formulations called for expanded vermiculite.

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**W. R. GRACE & CO.-CONN.  
FORMER VERMICULITE EXPANSION PLANT  
TRENTON, NJ  
WASTE GENERATION AND DISPOSAL**

The vermiculite expansion plant operating in Hamilton Township (Trenton) also manufactured some of the Monokote products. In general, the waste generated at such a facility can be broken down into three general categories. These are:

1. Paper bags, wooden pallets, and general plant trash.
2. Baghouse fines and sweepings.
3. Stoner rock.

Disposal records (although limited) indicate that the paper bags were baled and sent along with the pallet and other general trash to a landfill as follows:

G.R.O.W.S., Inc.  
1000 New Ford Mill Road  
Morristown, PA 19067

This is located in Falls Township, Bucks County, PA.

The transporter was:

DeLorenzo/Twin County Disposal, Inc.  
60 Miami Ave.  
Trenton, NJ 08601

The stoner rock and baghouse fines/sweepings were taken to:

Grand Central Sanitary Landfill, Inc.  
1963 Pen Argyl Road  
Pen Argyl, PA 18072

The landfill is located in Plainfield Township, Northampton County, PA and was permitted for the disposal of asbestos containing materials. The transporter was:

National Waste Disposal, Inc.  
432 Stokes Ave.  
Trenton, NJ 08638

Waste generated within the facility was transferred by payloader from the source to outside dumpsters. When full the dumpsters [separate dumpsters for paper

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bags/general trash and stoner rock/baghouse fines (sweepings)] were hauled to the respective landfills. There was no general public access to these dumpsters because of the location of the facilities on railroad property. Disposal of the waste closely followed this procedure, and there was no known accumulated piles or policy of allowing the public onto the site for the purpose of hauling these waste materials off for private use.

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